

Southern Region WFO Aviation Training Plan

The following training plan was created to provide complete training to the prospective aviation forecaster at a WFO. Modules, readings and other training in this plan should provide a meteorologists with sufficient knowledge of NWS directives/policies, operational knobology/mechanics, and scientific and meteorological principles to carry out his/her duties. In addition, it is suggested that WFO MICs/SOOs use this plan as part of a forecaster's permanent training record which can be taken to a new NWS office if that forecaster moves.

"Required" material is contained in **Part 1** and should be completed by a meteorologist at all Southern Region WFOs before he/she performs unsupervised aviation duties. "Other" material, contained in **Part 2**, is offered to help forecasters become more highly trained in the field of aviation weather. An MIC may wish to designate some material in **Part 2** as required for meteorologists at his/her local office. Also, meteorologists should understand that this plan will be supplemental to any national aviation weather training plan. Finally, initials of the trainee serve to indicate the training item has been accomplished, understood, and can be applied as necessary.

Trainee: _____

Office: _____

Part 1. Required Readings/Modules/Training

A. Technical Directives and Instructions and General Knowledge

Date completed	SOO & Trainee initials	Item/Module
		NWSD 10-8 ... Aviation Policy Directive, Aviation Weather Services
		NWSI 10-801 ... Airport Weather Warnings
		NWSI 10-802 ... Aviation Outreach
		NWSI 10-804 ... Pilot Reports
		NWSI 10-805 ... Transcribed Weather Broadcasts
		NWSI 10-813 ... Terminal Aerodrome Forecasts
		NWSPD 10-20 ... Forensic Services NWSI 10-2001 ... Definitions NWSI 10-2002 ... Roles of Other Government Departments and Offices NWSI 10-2003 ... Records Retention NWSI 10-2004 ... Accident Notification NWSI 10-2005 ... Handling and Releasing Accident-Related Weather Information NWSI 10-2006 ... The Accident Investigation/Litigation Process
		Local WFO Station Duty Manual, appropriate sections

NWS Directives and Instructions located at: http://www.nws.noaa.gov/directives/010/operation_services.htm

B. Technical Forecasting/Observations Modules

Date completed	SOO & Trainee initials	Item/Module
		TAF Module, produced by NWSTC (RTM-253) (http://www.nwstc.noaa.gov/nwstrn/aviation_met.htm)
		Introduction to TWEB Forecasting, produced by NWSTC (RTM-251) * (http://www.nwstc.noaa.gov/nwstrn/aviation_met.htm) * (Required for WFOs w/ TWEBs or WFOs w/ backup responsibilities to WFOs with TWEBs)
		ASOS Algorithm Tutorials (http://meted.ucar.edu/export/asos/index.htm)
		DLOC or Resident WSR-88D Radar Training Course (Warning Decision Making Training Branch Distance Learning Operations Course (http://www.wdtb.noaa.gov/)

C. Knobology for WFO forecasts and operations

Date completed	SOO & Trainee initials	Item/Module
		On-site training with <u>AWIPS Aviation Workstation</u> (if used locally) (Documentation is in the help menu of the program.)
		On-site training with AWIPS MDL TAF Workstation (if used locally) (Documentation is in the help menu of the program.)
		Local WFO PC based programs (training available on-site, as appropriate)
		Aviation Verify Program (SOOs and Aviation Focal Points) ability to start program and view output) (http://www.srh.noaa.gov/ftproot/sram/support/avnverify.html)

D. Meteorological Training Specific to Aviation**General Weather**

Date completed	SOO & Trainee initials	Item/Module
		Distance Learning Aviation Course, DLAC (The time frame for completing this training will be determined after the course is developed.)
		“Radiation Fog” CBL, COMET (http://meted.ucar.edu/fogstrat/ic31/ic311/index.htm)
		Skew-T, Log P, NWS Training Center, Kansas City, MO, RTM-230 (http://www.nwstc.noaa.gov/nwstrn/intern.htm)
		"Low-level Wind Shear: A Hazard to Aviation", NWSTC, 1986. (Available from NWSTC or SRH Regional Aviation Meteorologist.)
		“Low Level Wind Shear”, Robert Jackson, MIC, ZSE CWSU (http://www.wrh.noaa.gov/wrhq/training.html)

Other Local WFO Training

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Part 2. Other Readings/Modules/Training

A. Technical Operating Instructions and General Knowledge

Date completed	SOO & Trainee initials	Module/ Item
		Visit a FAA Flight Service Station, where possible.
		Visit a CWSU/ARTCC, where possible.
		Visit an aviation facility and meet “customers”.
		Browse and become familiar with the Aviation Weather Center web site (http://aviationweather.noaa.gov/)
		NWSI 10-803 ... Support to Air Traffic Control Facilities
		NWSI 10-807 ... International Service Agreements
		NWSI 10-808 ... Designated Pilot Program
		NWSI 10-809 ... Support to FAA Pilot Weather Briefing Facilities
		NWSI 10-810 ... Domestic Products
		NWSI 10-811 ... International Products
		NWSI 10-812 ... Aviation Wind and Temperature Aloft Forecasts

B. Technical Forecasting/Observations Modules

Date completed	SOO & Trainee initials	Module/Item
		Federal Meteorological Handbook No. 1, U.S. Dept. of Commerce, NOAA, National Weather Service, (http://205.156.54.206/oso/oso1/oso12/fmh1.htm)
		Pilot Reports (PIREPs) interpretation Power Point slide show, (http://www.atctraining.faa.gov/afss/FieldTraining/index.htm)
		Introduction to TWEB Forecasting, produced by NWSTC (RTM-251) * (http://www.nwstc.noaa.gov/nwstrn/aviation_met.htm) * (Required for WFOs w/ TWEBs or WFOs w/ backup responsibilities to WFOs with TWEBs)

C. Knobology for WFO forecasts and operations

Date completed	SOO & Trainee initials	Module/Item
		Become familiar with TAFTrack verification program (as appropriate) (http://www.srh.noaa.gov/tulsa/pubs/taftrack/ for information. Go to the NWS AWIPS LAD for software.)
		Become familiar with Southern Region “Prevailing Ceiling and Visibility TAF-vs-MAV Verification” web site (http://www.srh.noaa.gov/tulsa/taftrack)

D. Meteorological Training Specific to Aviation**General Weather**

Date completed	SOO & Trainee initials	Module/Item
		Weather Event Simulator (WES) training cases (if available and applicable)
		“Model Fundamentals”, COMET CBL Series on NWP (http://www.comet.ucar.edu/modules/NWP1-1.htm)
		“How Models Produce Precipitation and Clouds”, COMET CBL Series on NWP (http://www.comet.ucar.edu/modules/NWP1-3.htm)
		“Intelligent Use of Model-Derived Products”, COMET CBL Series on NWP, (http://meted.ucar.edu/nwp/pcu1/ic5/index.htm)
		“Soaring Meteorology for Forecasters”, Forecaster Handbook No. 3, U.S. Department of Commerce, NOAA, NWS, 1972.
		“Probability Forecasting - Reasons, Procedures, Problems”, NOAA Technical Memorandum NWS FCST-24, L. Hughes. (Available from NWSTC)
		“West Coast Fog” CBL, COMET (http://meted.ucar.edu/fogstrat/ic31/ic313/index.htm)
		“An Introduction to Precipitation Type Forecasting”, CBL, NWSTC, 1997
		"Low-level Wind Shear: A Critical Review", NOAA Technical Memorandum NWS FCST-23, J. Badner, 1979. (Available from SRH RAM)

Satellite Modules

Date completed	SOO & Trainee initials	Module/Item
		Satellite Meteorology: Remote Sensing Using the New GOES Imager (http://www.comet.ucar.edu/modules/SatMet1.htm)
		Satellite Meteorology: Case Studies Using GOES Imager Data (http://www.comet.ucar.edu/modules/SatMet2.htm)
		Satellite Meteorology: Using the GOES Sounder (http://www.comet.ucar.edu/modules/SatMet3.htm)

		Polar Satellite Products for the Operational Forecaster, Module 1: POES Introduction and Background (http://meted.ucar.edu/ist/poes/)
		Polar Satellite Products for the Operational Forecaster, Module 2: Microwave Products and Applications (http://meted.ucar.edu/ist/poes2/index.htm)
		Polar Satellite Products for the Operational Forecaster, Module 3: Case Studies (http://www.meted.ucar.edu/ist/poes3/index.htm)
		Polar Satellite Products for the Operational Forecaster, Module 4: Soundings (http://www.meted.ucar.edu/ist/poes4/index.htm)

Technical Procedures Bulletins and other readings

Date completed	SOO & Trainee initials	Module/Item
		“Regional Aviation Operations (RAO) Course, NWS Central Region SSD, 1998 (Available from SRH Regional Aviation Meteorologist)
		Miller, Maj. D.T., 1995: NGM-based MOS Ceiling Height Guidance for the Contiguous United States, NWS Technical Procedures Bulletin No. 414, NOAA, U.S. Dept. of Commerce, 14 pp.
		Meyer, Capt. F. G., V. Dagostaro, and Major D. T. Miller, 1997: MOS Visibility and Obstruction to Vision Guidance for the Contiguous United States. NWS Technical Procedures Bulletin No. 431, NOAA, U.S. Dept. of Commerce, (http://www.nws.noaa.gov/om/tpb/431.htm)
		Dallavalle, J. P., and M. C. Erickson, 2000: AVN-based MOS guidance - The alphanumeric messages. NWS Technical Procedures Bulletin No. 463, NOAA, U.S. Dept. of Commerce, 12 pp. (http://www.nws.noaa.gov/om/tpb/463.htm)
		Sfanos, Benjamin, 2001: AVN-based MOS wind guidance for the United States and Puerto Rico. NWS TPB No. 475, NOAA, U.S. Dept. of Commerce, 6pp. (http://www.nws.noaa.gov/om/tpb/474.htm)
		Allen, R. L., and M.C. Erickson, 2001: AVN-based MOS precipitation type guidance for the United States. NWS TPB No. 476, NOAA, U.S. Dept. of Commerce, 9pp. (http://www.nws.noaa.gov/om/tpb/476.htm)
		Ghirardelli, J.: Overview of Local AWIPS MOS Program - LAMP, (http://www.nws.noaa.gov/mdl/lamp/detail/index.shtml)
		Reap, R.M., 1996: Probability Forecasts of Clear-Air-Turbulence for the Contiguous U.S., NWS Technical Procedures Bulletin No. 476, NOAA, U.S. Dept. of Commerce, 14 pp. (http://205.156.54.206/im/430.htm)

Aircraft Icing Modules

Date completed	SOO & Trainee initials	Module/Item
		Aircraft Icing (NWS Training Center, Kansas City, MO, MMFDC252)

